CULTURAL RESOURCES SURVEY OF THE SUNDRUM CLAYTON 115Kv SUBSTATION PROJECT, DORCHESTER COUNTY, SOUTH CAROLINA

Chicora Research Contribution 584

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MANAGEMENT SUMMARY

This report provides the results of a cultural resources investigation of a 6.55 acre transmission substation lot in north central Dorchester County, approximately 2.10 miles northwest of the City of Ridgeville, South Carolina, adjacent to HWY 78 and the intersection of the existing 115kV transmission line. Andrew P. Hyder (field supervisor), Lincoln Caldwell, and Racheal Hutchison (Archaeological field technicians) conducted this study, under the supervision of Dr. Michael Trinkley of Chicora Foundation for Mr. Tommy Jackson of Central Electric Power Cooperative. The work is intended to assist this client comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

Central Electric Power Cooperative intends to use the property for the construction of a new substation lot about 6.55 acres in size adjacent to and west of an existing 115kV transmission line. Associated is an alignment for a transmission line from the substation lot running east to connect with an existing line. This new substation is parallel to an existing 115kV line approximately 100 feet east.

The proposed substation lot has an Army Corps of Engineers protected wetland with buffer in the northwest that is 450'x200'. Otherwise, the bulk of the corridor is very well drained with little soil development. The substation lot is wooded in scrub vegetation.

For this study, an area of potential effect (APE) 100 feet around the proposed substation was assumed. The basis for this APE is the existing transmission line east of the proposed substation lot, as well as additional construction and development activities in the immediate vicinity of the project.

Dorchester County has received a comprehensive architectural and historical survey (Fick and Davis 1996), but no structures were identified in or adjacent to the APE. A previous investigation of the adjacent U.S. 78 (Salo et al. 2007) failed to identify any archaeological sites in or adjacent to the APE and a historic structure 2,800 feet east of the project site was determined by the SHPO to be not eligible. A survey of public roads within 100 feet of the survey area was conducted in an effort to identify any architectural sites over 50 years old that also retained their integrity. No structures were found.

An investigation of the archaeological site files at the S.C. Institute of Archaeology and Anthropology failed to identify any previously recorded archaeological sites within the project's APE.

The archaeological study of the substation lot incorporated shovel tests at 100-foot intervals, in four transects. A total of 20 shovel tests were excavated in the 4.44 acre of proposed disturbance at the substation lot. No shovel test were excavated inside the wetlands or its buffer.

The shovel tests failed to reveal any archaeological sites, almost certainly because of location and lack of suitable subsistence resources in the area.

It is possible that archaeological remains may be encountered in the project area during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office or to Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No construction should take place in the vicinity of

these late discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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Introduction

This investigation was directed by Dr. Michael Trinkley of Chicora Foundation, Inc. for Mr. Tommy L. Jackson of Central Electric Power Cooperative. The work was conducted to assist Central Electric Power Cooperative to comply with Section 106 of the National Historic Preservation Act and the regulations codified in 36CFR800.

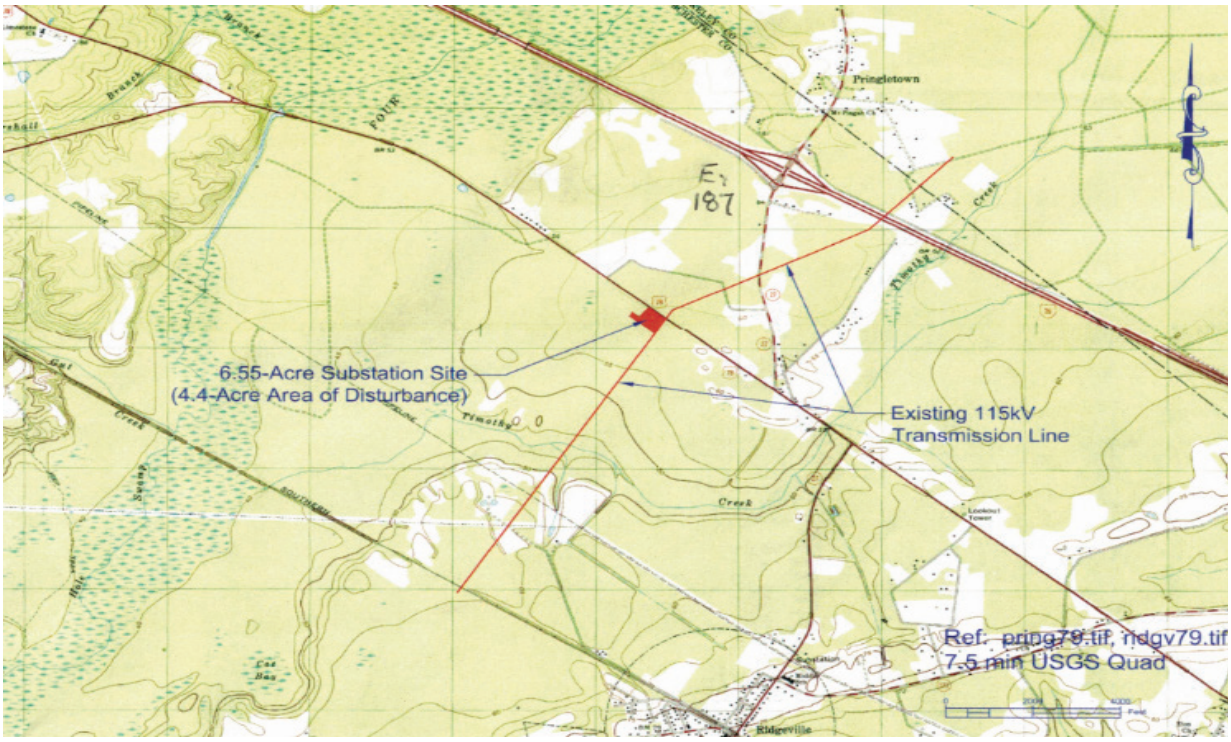

Figure 1. 1:24,000 USGS topographic map showing the project area

The project site consists of a proposed substation lot of 6.55 acre in north central Dorchester County, approximately 2.10 miles northwest of the City of Ridgeville, South Carolina, adjacent to U.S. 78 and at the intersection of an existing 115kV transmission line (Figure 1).

The proposed substation lot is in a wooded and scrub vegetation area. East of the lot is an existing 115kV transmission line. West of the lot is a large construction area. During the time of the survey construction activities were being conducted.

Construction at the proposed substation lot will require additional land alteration, including clearing and grading of the tract. Consequently, construction and maintenance of the substation lot may have an impact on historic resources in the project area.

The project will not directly affect any historic structures (since none are located on the

substation parcel), but the completed facility may detract from the visual integrity of historic properties, creating what some consider discordant surroundings. As a result, the architectural survey uses an area of potential effect (APE) 100 feet around the proposed lot. This distance was selected since the proposed substation is in an area of extensive development and will parallel an existing transmission line. As a result, we judge visual intrusion to be of no concern.

This study, however, does not consider any future secondary impact of the project, including increased or expanded development of this portion of Dorchester County.

We were requested by Mr. Tommy L. Jackson of Central Electric Power Cooperative to conduct the cultural resource study in mid-October 2017, with the field investigations conducted by Andrew P. Hyder (field supervisor), Lincoln Caldwell, and Racheal Hutchison (Archaeological field technicians) on October 20th, 2017. The architectural survey and evaluations were conducted at this same time.

These investigations incorporated a review of ArchSite and the site files at the South Carolina Institute of Archaeology and Anthropology. As a result of that work, no previously recorded archaeological sites were identified within or adjacent to the APE. One architectural survey, of proposed improvements to U.S. 78 (Salo et al. 2007), has been conducted in the area. The closest architectural site, 1157, is a 1940s structure about 2,800 feet to the southeast. ArchSite failed to identify any archaeological sites in the immediate area.

Archival and historical research was limited to a review of secondary sources available in the Chicora Foundation files and at the South Caroliniana Library.

The archaeological survey identified no archaeological sites within the 4.4-acre parcel (not including the remaining 2.15-acre within the wetlands). The architectural survey of the APE, designed to identify any structures over 50 years in age that retain their integrity and that are potentially eligible for the National Register of Historic Places revealed no such structures.

Report production was conducted at Chicora's laboratories in Columbia, South Carolina on October 25-26, 2017. The only photographic materials associated with this project are digital and will be retained by Chicora Foundation.

Environmental Background

Physiography and Geology

The project is situated in north central Dorchester County, the county is 569 square miles (approximately 364,000 acres). Dorchester itself is in the southeastern part of South Carolina, bordered on the north by Orangeburg County, the east by Berkeley County, the south by Charleston County and is separated from Colleton County on the west By the Edisto River.

The topography of the project area consists of nearly level terraces with elevations in the ranging at about 55-60 feet above mean sea level (AMSL). The substation lot itself is 55 feet AMSL. Elevations in the County range from about 3 to 4 feet AMSL along some sections of the Ashley River to about 120 ALMS near Reevesville (Eppinette 1990:1). Overall, the entire region generally slopes towards the Atlantic Ocean.

The geology is characteristic South Carolina's Lower Pine Belt. The County has a distinctive hourglass, shape. Four Holes Swamp which runs north to south divides the counties northwest and southeast portions. The County is further divided by swamp that include Indian Field and Polk swamps northeast of four holes swamp. These swamps generally drain southeast into the Edisto River. The southeastern portions of the county consist of the Cypress swamp which runs

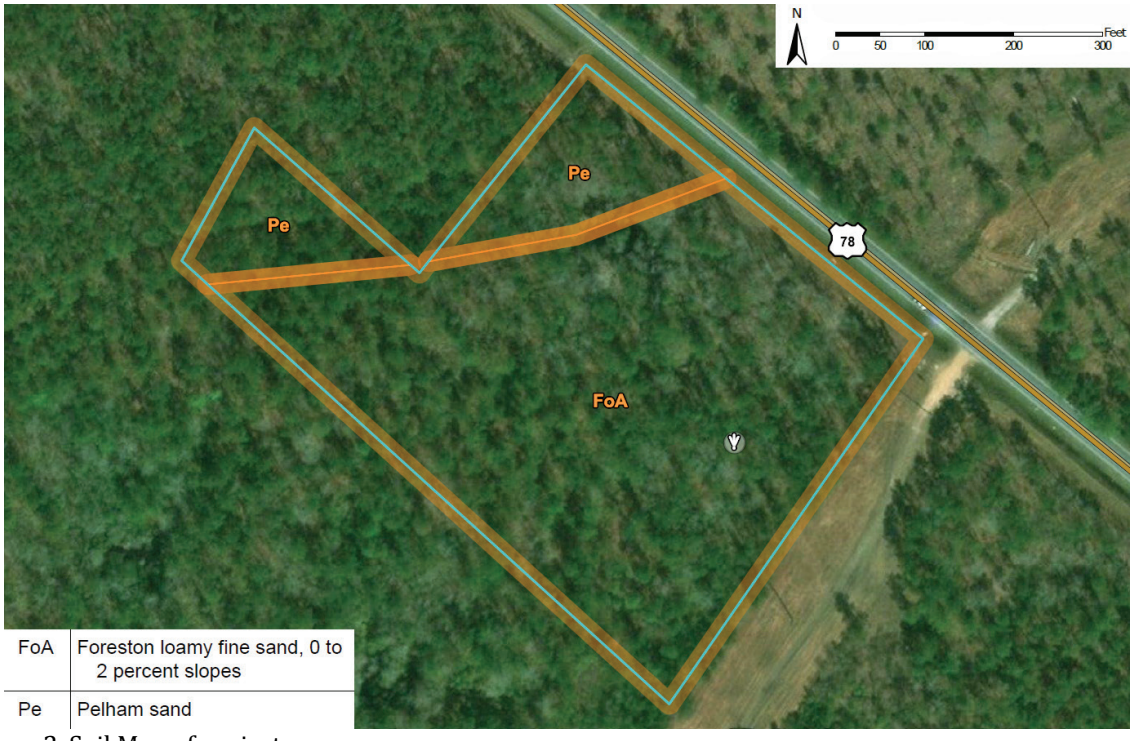

Figure 2. Soil Map of project area.

into the Ashley River. There is a savanna area south of the Ashely River that is just above tidal river levels. Here Drayton swamp, Firshburne, and Rantowles creeks flow into southeast into the Stono River system (Eppinette 1990:3).

Soils

There are two soil types found in the proposed substation project area. Over 98% of the soils consist of Foreston loamy fine sand (FoA) and 6.2% Pelham sand (Pe)(see Figure 2).

Foreston loamy fine sand is located on nearly level terraces in the central portions of Dorchester County. Typically the surface is a very dark loamy fine sand 0.8 foot thick to a yellowish brown subsoil (Eppinette 1990:23). Pelham sand is found in nearly level depressions and is poorly drained. Surface is typically 0.65 foot and overlies 1.2 to 3 feet gray sand. This is found over brownish grey loamy sand subsoil (Eppinette 1990:33). Only Foreston Sand was identified in shovel tests (Figure 3).

Figure 3. Soil profile, Foreston loamy fine sand (FoA).

Climate

The general climate of the area is characterized by mild humid conditions. This climate is influenced by the warm Gulf Stream, as well as by the Appalachian Mountains which block the coldest air masses. Other factors include latitude, elevation, distance from the ocean, and location with respect to the average tracts of migratory cyclones. Day to day weather is controlled primarily by the movement of pressure systems across the nation. However, during the summer months there are few complete exchanges of air masses because tropical maritime air persists for extended periods (Ward 1989).

The average annual precipitation in the county is about 49.6 inches and is unevenly distributed throughout the year, with 31.6 inches occurring from April through October, which is the primary growing season (Ward 1989:112).

The climate, according to Mills (1972[1826]), "taking the whole year round, is pleasant." The annual average temperature in Dorchester County is 75.2°F, and the average monthly temperature ranges from 57.0°F in January to 91.2°F in July. Frozen precipitation occurs only one to three times a year during the winter season. The abundant supply of warm, moist and relatively unstable air produces frequent scattered showers and thunderstorms in the summer. Severe weather usually means violent thunderstorms, tornadoes, and hurricanes. The tropical storm season is in late summer and early fall, although storms may occur as early as May or as late as October (Baldwin 1973). Heavy rains and high winds occur with tropical storms about once every six years. Storms of hurricane intensity are much more infrequent. Notable droughts have occurred twice in modern times – in 1925 and 1954. Typically, a serious drought may occur once every fifty years. Less severe dry periods have occurred more often, normally in late spring or in autumn (Pitts 1974:109).

Floristics

Often described as flatwoods, the project area consists of a few low ridges and bay

depressions. There are two major categories of plant communities, based primarily on topographic location, which exist in the project area. The first category consists of upland vegetation. Supported here are a mixture of coniferous and deciduous forests dominated by pines and broadleaf taxa such as upland oaks, sweetgum, hickories, and various understory species. Incorporated may be small upland depressions and drainages, which contain more hydric species.

Portions of the upland area were found to contain pine forest, typically found on soils of low fertility, high acidity, and excessive drainage. Most often these areas have been subjected to extensive disturbance, including repeated logging operations, and the pine represent an early stage of revegetation.

Lowland forests, which account for the second category, are located on the floodplains and swamps near the project area. These floodplain soils are often forested with bald cypress, gum, sycamore, water hickory, lowland oaks, soft maples, willows, and other herbaceous species. Today, however, we found primarily scrub vegetation, suggesting the lowland forests had been logged.

In the early nineteenth century Mills observed that:

> The long leafed pine is most abundant of the forest trees; next the cypress, various kinds of oak, the hickory, tupelo, &c. Of fruit trees the peach, apple, pear, plum, &c are common . . . . The pine

Figure 4. Excavating shovel tests and showing scrub vegetation.

> and cypress are made most use for building, but good clay is found in various places, suitable to make brick (Mills 1972 [1826]: 624-5).

Mills also observed that the major use of these forest resources was construction, also noting that "good clay is found in various places, suitable to make brick" (Mills 1972[1826]:625). Only lime, largely made of burnt shells, needed to be imported into the area (primarily from neighboring Charleston County). Mills encouraged the residents to make better use of their local "shell limestone" for lime, a suggestion which appears to have made little impact in the local economy (Mills 1972[1826]:628).

Prehistoric and Historic Synthesis

Prehistoric Overview

The Paleoindian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, side notched projectile points; fluted, lanceolate projectile points; side scrapers; end scrapers; and drills (Coe 1964; Michie 1977; Williams 1965). The Paleoindian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented towards the exploitation of now extinct mega fauna" (Michie 1977:124).

Unfortunately, little is known about Paleoindian subsistence strategies, settlement systems, or social organization. Generally, archaeologists agree that the Paleoindian groups were at a band level of society (see Service 1966), were nomadic, and were both hunters and foragers. While population density, based on the isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

The Archaic period, which dates from 8000 to 2000 B.C., does not form a sharp break with the Paleoindian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited mammal. The chronology established by Coe (1964) for the North Carolina Piedmont may be applied with little modification to the South Carolina coastal plain and piedmont. Archaic period assemblages, exemplified by corner notched and broad stem projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

In the Coastal Plain of the South Carolina there is an increase in the quantity of Early Archaic remains, probably associated with an increase in population and associated increase in the intensity of occupation. While Hardaway and Dalton points are typically found as isolated specimens along riverine environments, remains from the following Palmer phase are not only more common, but are also found in both riverine and interriverine settings. Kirks are likewise common in the coastal plain (Goodyear et al. 1979).

The two primary Middle Archaic phases found in the coastal plain are the Morrow Mountain and Guilford (the Stanly and Halifax complexes identified by Coe are rarely encountered). Our best information on the Middle Woodland comes from sites investigated west of the Appalachian the Little Tennessee River Valley. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and South Carolina, where axes, choppers, and ground and polished stone tools are very rare.

The Late Archaic is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued the intensive exploitation of the uplands much like earlier Archaic groups. The bulk of our data for this period, however, comes from work in the Uwharrie region of North Carolina.

The Woodland period begins by definition

with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast (the introduction of pottery, and hence the beginning of the Woodland period, occurs much later in the Piedmont of South Carolina). It should be noted that many researchers call the period from about 2500 to 1000 B.C. the Late Archaic because of a perceived continuation of the Archaic lifestyle in spite of the manufacture of pottery. Regardless of terminology, the period from 2500 to 1000 B.C. is well documented on the South Carolina coast and is characterized by Stallings (fiber tempered) pottery (see Figure 5 for a synopsis of Woodland phases and pottery designations). The subsistence economy during this early period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish.

Like the Stallings settlement pattern, Thom's Creek sites are found in a variety of environmental zones and take on several forms. Thom's Creek sites are found throughout the South Carolina Coastal Zone, Coastal Plain, and up to the Fall Line. The sites are found into the North Carolina Coastal Plain, but do not appear to extend southward into Georgia.

In the Coastal Plain drainage of the Savannah River there is a change of settlement, and probably subsistence, away from the riverine focus found in the Stallings Phase (Hanson 1982:13; Stoltman 1974:235 236). Thom's Creek sites are more commonly found in the upland areas and lack evidence of intensive shellfish collection. In the Coastal Zone large, irregular shell middens, small, sparse shell middens; and large "shell rings" are found in the Thom's Creek settlement system.

The Deptford phase, which dates from 1100 B.C. to A.D. 600, is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. The Deptford settlement pattern involves both coastal and inland sites.

Inland, sites such as 38AK228 W, 38LX5, 38RD60, and 38BM40 indicate the presence of an extensive Deptford occupation on the Fall Line and the Coastal Plain, although sandy, acidic soils preclude statements on the subsistence base (Anderson 1979; Ryan 1972; Trinkley 1980b). These interior or upland Deptford sites, however, are strongly associated with the swamp terrace edge, and this environment is productive not only in nut masts, but also in large mammals such as deer. Perhaps the best data concerning Deptford "base camps" comes from the Lewis West site (38AK228 W), where evidence of abundant food remains, storage pit features, elaborate material culture, mortuary behavior, and craft specialization has been reported (Sassaman et al. 1990:96 98).

Throughout much of the Coastal Zone and Coastal Plain north of Charleston, a somewhat different cultural manifestation is observed, related to the "Northern Tradition" (e.g., Caldwell 1958). This recently identified assemblage has been termed Deep Creek and was first identified from northern North Carolina sites (Phelps 1983). The Deep Creek assemblage is characterized by pottery with medium to coarse sand inclusions and surface treatments of cord marking, fabric impressing, simple stamping, and net impressing. Much of this material has been previously designated as the Middle Woodland "Cape Fear" pottery originally typed by South (1976). The Deep Creek wares date from about 1000 B.C. to A.D. 1 in North Carolina, but may date later in South Carolina. The Deep Creek settlement and subsistence systems are poorly known, but appear to be very similar to those identified with the Deptford phase.

The Deep Creek assemblage strongly resembles Deptford both typologically and temporally. It appears this northern tradition of cord and fabric impressions was introduced and gradually accepted by indigenous South Carolina populations. During this time some groups continued making only the older carved paddle stamped pottery, while others mixed the two styles, and still others (and later all) made exclusively cord and fabric stamped wares.

The Middle Woodland in South Carolina is

characterized by a pattern of settlement mobility and short term occupation. On the southern coast it is associated with the Wilmington phase, while on the northern coast it is recognized by the presence of Hanover, McClellanville or Santee, and Mount Pleasant assemblages. The best data concerning Middle Woodland Coastal Zone assemblages comes from Phelps' (1983:32 33) work in North Carolina. Associated items include a small variety of the Roanoke Large Triangular points (Coe 1964:110 111), sandstone abraders, shell pendants, polished stone gorgets, celts, and woven marsh mats. Significantly, both primary inhumations and cremations are found.

On the Coastal Plain of South Carolina, researchers are finding evidence of a Middle Woodland Yadkin assemblage, best known from Coe's work at the Doerschuk site in North Carolina (Coe 1964:25 26). Yadkin pottery is characterized by a crushed quartz temper and cord marked, fabric impressed, and linear check stamped surface treatments. The Yadkin ceramics are associated with medium sized triangular points, although

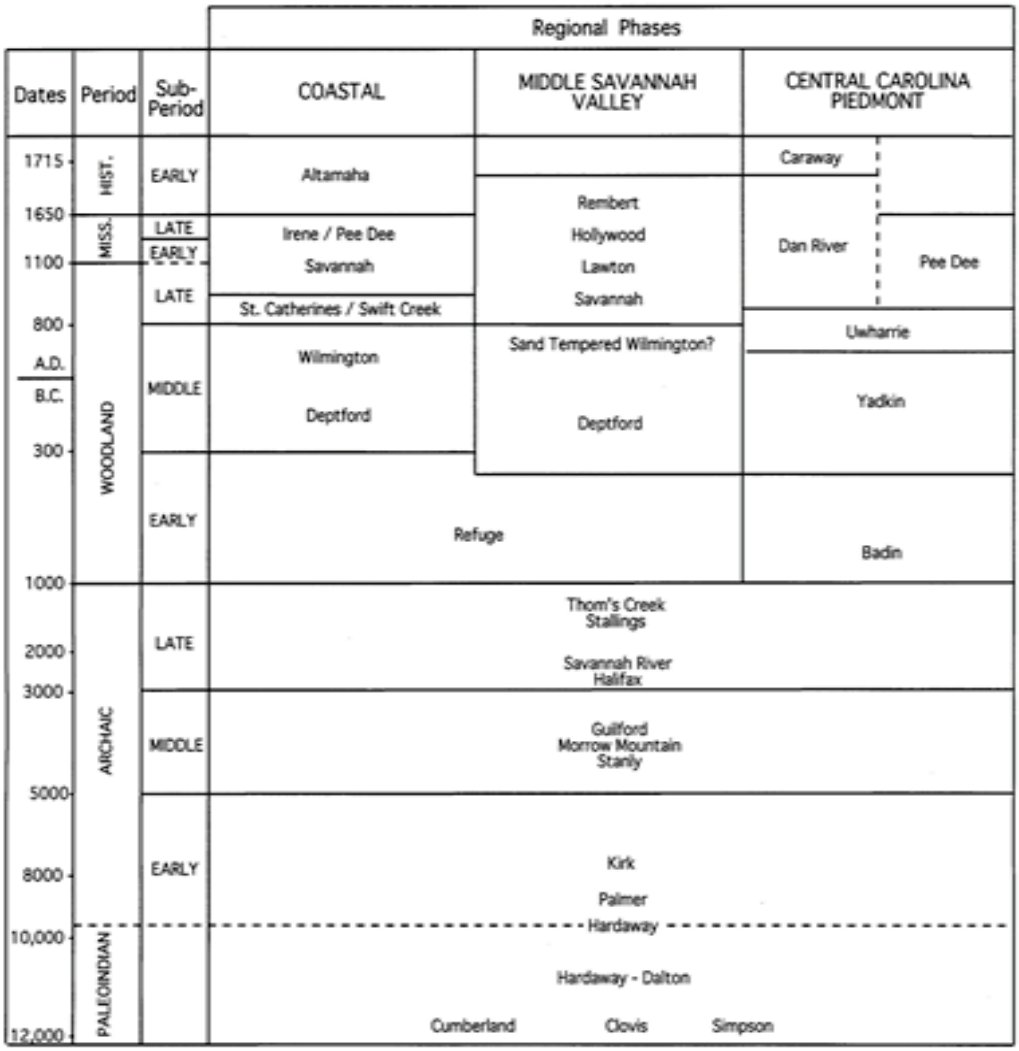

Figure 5. Generalized cultural sequences for South Carolina.

Oliver (1981) suggests that a continuation of the Piedmont Stemmed Tradition to at least A.D. 300 coexisted with this Triangular Tradition. The Yadkin series in South Carolina was first observed by Ward (1978, 1983) from the White's Creek drainage in Marlboro County, South Carolina. Since then, a large Yadkin village has been identified by DePratter at the Dunlap site (38DA66) in Darlington County, South Carolina (Chester DePratter, personal communication 1985) and Blanton et al. (1986) have excavated a small Yadkin site (38SU83) in Sumter County, South Carolina. Research at 38FL249 on the Roche Carolina tract in northern Florence County revealed an assemblage including Badin, Yadkin, and Wilmington wares (Trinkley et al. 1993:85-102). Anderson et al. (1982:299 302) offer additional typological assessments of the Yadkin wares in South Carolina.

Over the years the suggestion that Cape Fear might be replaced by such types as Deep Creek and Mount Pleasant has raised considerable controversy. Taylor, for example, rejects the use of the North Carolina types in favor of those developed by Anderson et al. (1982) from their work at Mattassee Lake in Berkeley County (Taylor 1984:80). Cable (1991) is even less generous in his denouncement of ceramic constructs developed nearly a decade ago, also favoring adoption of the Mattassee Lake typology and chronology. This construct, recognizing five phases (Deptford I - III, McClellanville, and Santee I), uses a type variety system.

Regardless of terminology, these Middle Woodland Coastal Plain and Coastal Zone phases continue the Early Woodland Deptford pattern of mobility. While sites are found all along the coast and inland to the Fall Line, shell midden sites evidence sparse shell and artifacts. Gone are the abundant shell tools, worked bone items, and clay balls. Recent investigations at Coastal Zone sites such as 38BU747 and 38BU1214, however, have provided some evidence of worked bone and shell items at Deptford phase middens (see Trinkley 1990).

In many respects the South Carolina Late Woodland may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500 to 700 years (cf. Sassaman et al. 1990:14 15). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

The South Appalachian Mississippian Period (ca. A.D. 1100 to 1640) is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest phases include the Savannah and Pee Dee (A.D. 1200 to 1550).

Historic Overview

While the English settled Charleston in 1670, it was not until 1697 that the Dorchester County area stated to be settled. Joseph Lord founded the town of Dorchester approximately 26 mile east of the city of Charleston and six mile from the town of Summerville. Dorchester County was named for Dorchester, Massachusetts, in 1696, Congregationalists from Massachusetts moved south and established a new settlement called Dorchester. The town had a fort on the Ashely River, a church with bell towers, and good roads. Dorchester saw considerable action during the American Revolutionary War. Although the town had been abandoned by 1788, the parish in which it was located continued to be referred to as St. George's, Dorchester (South Carolina, 1927:308). By 1826 there were several roads traveling from Orangeburg through Dorchester to Charleston, See Mills Atlas (Figure 6).

This name was subsequently adopted for the county when it was formed from part of Colleton County in 1897. The county seat is the

town of St. George, which also took its name from the old parish.

Today, its fort is in good preservation, and the ruins of its church and old tombstones, constitute the sole pieces of physical evidence of its former existence.

The county's population was, in 1920, 19,459, and by 1925 had increased to 20,346. The area is 569 square miles, mostly level, and through it flow the Ashley and Edisto rivers. Its length, about 35 miles, is about three times its average breadth, and the Southern Railway, using the same roadbed as the old South Carolina Canal and Rail Road Company, which, about 1830, is said to have operated the longest railroad line in the world (Charleston & Hamburgh Railroad), runs through the greater part of its length. The railroad serves Summerville, a well-known historic winter resort, with tourist hotels, and golf courses; St. George, the county seat, is an active farming and business center. Connection is made at Pregnall's with the Atlantic Coast Line, which serves a section of the county to the eastward. The county has 42 miles of railroad.

Its lands are fertile and the area has a climate mild, both make it peculiarly adapted to agriculture, which, with lumbering and cattle, has been the main occupation about two centuries. Its growing season numbers 280 days. Cotton, corn, oats, tobacco, and potatoes are extensively and profitably raised. Cattle, poultry, dairying, and lumber manufacturing, are other important industries. The Coastal Experiment station, ruder Clemson College, and a timber experimental station, conducted by the Southern Railway, are in the county.

Bu 1920, a lumber plant, with daily capacity of 70,000 feet, brick plant, and ice and electric plant were located in Summerville; an electric plant and oil mill were found at St. George, and lumber plant was located at Badham. Its mercantile business is good, and failures are rare (South Carolina, 1927:308).

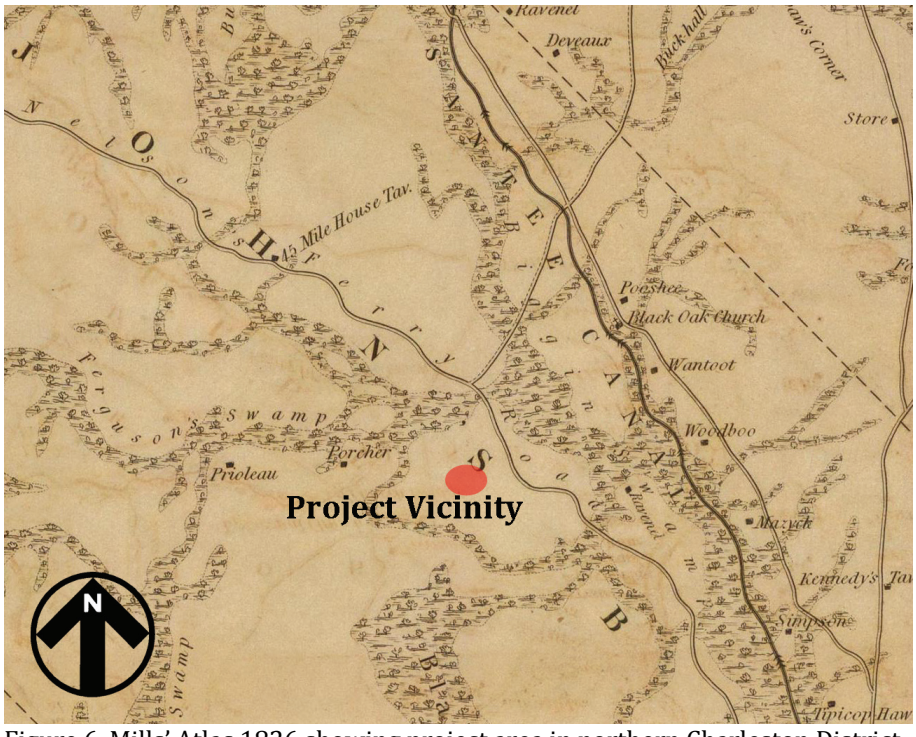

Figure 6. Mills' Atlas 1826 showing project area in northern Charleston District.

The 1919 *General Highway and Transportation Map* for the project area (Figure 7) illustrates little development in the project area. At the time of this map, Highway 78 was known as the Orangeburg Road, showing that this was a thoroughfare from Orangeburg to Charleston. Settlements are still focused on the road network. The project areas at this time was probably wooded, swampy, and of little economic importance.

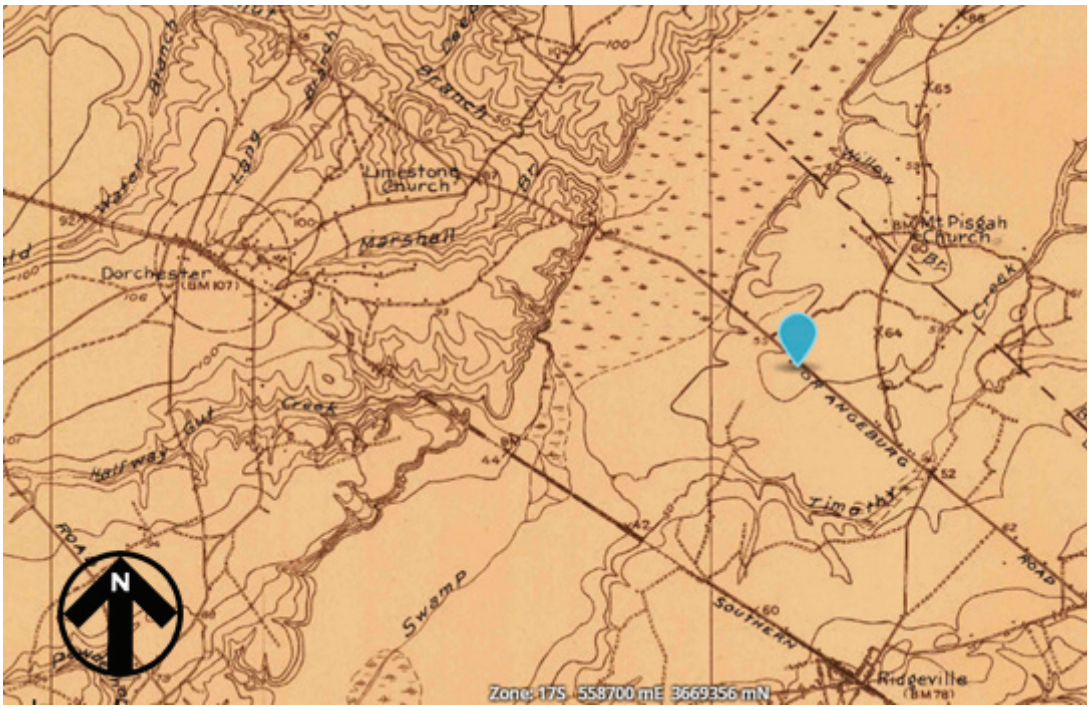

Figure 7. Portion of the 1919 *General Highway and Transportation Map* showing the project area.

Methodology and Results

Archaeological Field Methods

The initially proposed field techniques involved the placement of shovel tests at 100-foot intervals on transects every 100 feet across the substation lot.

All soil would be screened through ¼-inch mesh, with each test numbered sequentially along the each transect. Each test would measure about 1-foot square and would normally be taken to a depth of at least 1.5 feet or until subsoil was encountered. All cultural remains would be collected, except for mortar and brick, which would be quantitatively noted in the field and discarded. Notes would be maintained for profiles at any sites encountered.

Should sites (defined by the presence of three or more artifacts from either surface survey or shovel tests within a 50 feet area) be identified, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. For small or very recent sites these tests would be placed at 25 to 50 feet intervals in a simple cruciform pattern until two consecutive negative shovel tests were encountered. For larger sites or sites where we felt there was a potential for National Register eligibility, shovel tests would incorporate the entire site within the project tract. Again, shovel tests would be placed at 25 to 50 foot intervals. We are precluded from examining areas outside the tract by the easements obtained by Central Carolina Power Cooperative.

The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be collected and photographs would be taken, if warranted in the opinion of the field investigator.

The GPS positions would be taken with a WAAS enabled Garmin 76 rover that tracks up to twelve satellites, each with a separate channel that is continuously being read. The benefit of parallel channel receivers is their improved sensitivity and ability to obtain and hold a satellite lock in difficult situations, such as in forests or urban environments where signal obstruction is a frequent problem. This was a vital concern for the study area.

Architectural Survey

As previously discussed, we elected to use a 100-foot area of potential effect (APE). The architectural survey would record buildings, sites, structures, and objects that appeared to have been constructed before 1960. Typical of such projects, this survey recorded only those which have retained "some measure of its historic integrity" (Vivian 2001:5) and which were visible from public roads.

For each identified resource we would complete a Statewide Survey Site Form and at least two representative photographs were taken. The Survey Staff of the S.C. Department of Archives and History would assign permanent control numbers at the conclusion of the study. The Site Forms for the resources identified during this study would be submitted to the S.C. Department of Archives and History.

Site Evaluation

Archaeological sites will be evaluated for further work based on the eligibility criteria for the

National Register of Historic Places. Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead federal agency, in consultation with the State Historic Preservation Officer at the South Carolina Department of Archives and History.

The criteria for eligibility to the National Register of Historic Places are described by 36CFR60.4, which states:

> the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b. that are associated with the lives of persons significant in our past; or
>
> c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d. that have yielded, or may be likely to yield, information important in prehistory or history.

National Register Bulletin 36 (Townsend et al. 1993) provides an evaluative process that contains five steps for forming a clearly defined explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps are:

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, and subsistence remains, architectural remains, or sub-surface features;

- identification of the historic context applicable to the site, providing a framework for the evaluative process;

- identification of the important research questions the site might be able to address, given the data sets and the context;

- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently well preserved to address the research questions; and

- identification of important research questions among all of those that might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluative process must stand alone, with relatively little reference to other documentation and where typically only one site is being considered. As a result, some aspects of the evaluative process have been summarized, but we have tried to focus on an archaeological site's ability to address significant research topics within the context of its available data sets.

For architectural sites the evaluative process was somewhat different. Given the relatively limited architectural data available for most of the properties, we focus on evaluating these sites using National Register Criterion C, looking at the site's "distinctive characteristics." Key to this concept is the issue of integrity. This means that the property needs to have retained, essentially intact, its physical identity from the

historic period.

Particular attention would be given to the integrity of design, workmanship, and materials. Design includes the organization of space, proportion, scale, technology, ornamentation, and materials. As *National Register Bulletin* 36 observes, "Recognizability of a property, or the ability of a property to convey its significance, depends largely upon the degree to which the design of the property is intact" (Townsend et al. 1993:18). Workmanship is evidence of the artisan's labor and skill and can apply to either the entire property or to specific features of the property. Finally, materials – the physical items used on and in the property – are "of paramount importance under Criterion C" (Townsend et al.

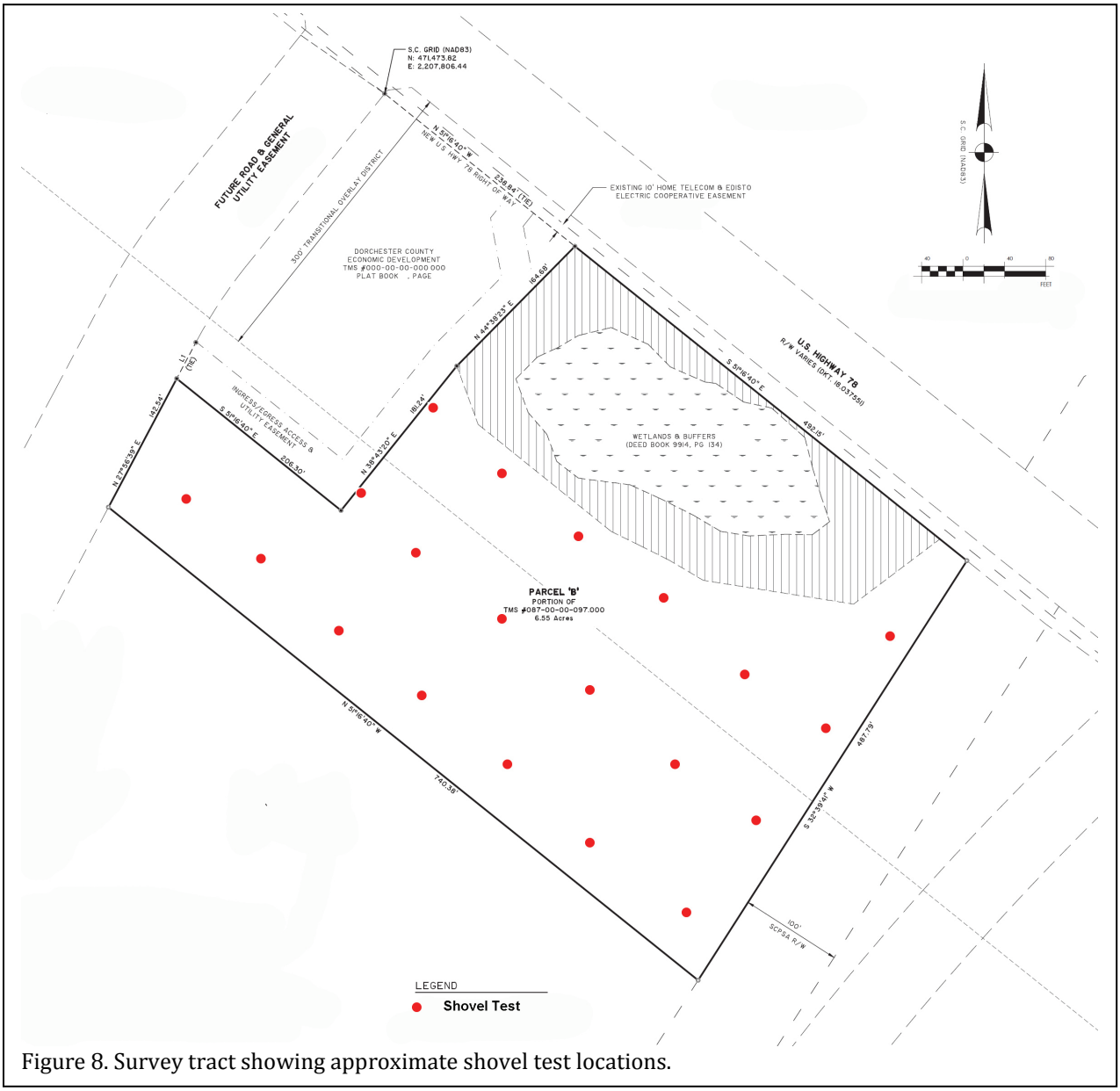

Figure 8. Survey tract showing approximate shovel test locations.

1993:19). Integrity here is reflected by maintenance of the original material and avoidance of replacement materials.

Laboratory Analysis

The cleaning and analysis of artifacts that might be collected would be conducted in Columbia at the Chicora Foundation laboratories. Any such materials will be catalogued and accessioned for curation at the South Carolina Institute of Archaeology and Anthropology, the closest regional repository. The site forms for the identified archaeological sites will be filed with the South Carolina Institute of Archaeology and Anthropology. Field notes from the project have been prepared for curation using archival standards and will be transferred to that agency as soon as the project is complete. Photographic materials are either digital and are not archival – they are being retained by Chicora Foundation.

Should materials be recovered requiring analysis that work will follow professionally accepted standard with a level of intensity suitable to the quantity and quality of the remains.

In general, the temporal, cultural, and typological classifications of prehistoric materials are defined by such authors as Coe (1964), Yohe (1996), Blanton et al. (1986), and Oliver et al. (1986). Historic materials, generally late nineteenth or early twentieth century, are generally classified using such authors as Jones and Sullivan (1980) for glass and Adams (1980), Bartovics (1978), and Price (1979) for ceramics.

Results

A total of 20 shovel tests were excavated and screened in the substation lot (Figure 8). The lot was divided into 4 transects; Transect 1 had 1 STP, Transect 2 had 6 STPs, Transect 3 had 6 STPs, and Transect 4 had 7 STPs. All STPs were negative. The average depth of each test was 1.5 feet, encountering subsoil at 0.6-0.8 foot below surface. The wetlands area and buffer zone were not tested.

The archaeological survey of the substation lot failed to identify any remains.

No standing structures not previously surveyed were identified.

Conclusions

This study involved the examination of a 6.55 acre substation lot (although only 4.4 acres will be incorporated in the construction footprint). This report, conducted for Mr. Tommy Jackson of Central Electric Power Cooperative, provides the results of the investigation and is intended to assist the company comply with their historic preservation responsibilities.

The South Carolina Department of Archives and History GIS was consulted to check for any NRHP buildings, districts, structures, sites, or objects in the study area. No properties in or near the project area have been determined eligible for the National Register of Historic Places. Likewise, previous archaeological studies failed to identify any cultural resources within the 100 foot APE.

The current field studies found no archaeological sites within the substation lot during the archaeological survey.

No standing structures were identified by this survey. Moreover, the presence of , existing power line and industrial development have significantly affected the visual integrity of the project area.

It is possible that archaeological remains may be encountered in the area during construction. As always, the utility's contractors should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to the State Historic Preservation Office, or Chicora Foundation (the process of dealing with late discoveries is discussed in 36CFR800.13(b)(3)). No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist and, if necessary, have been processed according to 36CFR800.13(b)(3).

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